

Q40 recycled from the SMDS Fischer-Tropsch and wax cracking process 4520. A total of about 1700 MW of energy is supplied to the in situ synthesis gas production process 4510. About 1020 MW of energy 4535 of the approximately 1700 MW of energy is supplied by in situ reaction of an oxidizing fluid with the formation, and approximately 680 MW of energy 4550 is supplied by the SMDS Fischer-Tropsch and wax cracking process 4520 in the form of steam. About 12,700 cubic meters equivalent oil per day of synthesis gas 4560 is used as feed gas to the SMDS Fischer-Tropsch and wax cracking process 4520. The SMDS Fischer-Tropsch and wax cracking process 4520 produces about 4,770 cubic meters per day of products 4570 that may include naphtha, kerosene, diesel, and about 5,880 cubic meters equivalent oil per day of off gas 4580 for a power generation facility.

On page 216, please delete the paragraph beginning on line 23, and substitute therefor:

Q41 The simulation of H₂ 4604 provides a good fit to observed fraction of H₂ 4603. The simulation of methane 4602 provides a good fit to observed fraction of methane 4601. The simulation of carbon dioxide 4606 provides a good fit to observed fraction of carbon dioxide 4605. The simulation of CO 4608 overestimated the fraction of CO 4607 by 4-5 percentage points. Carbon monoxide is the most difficult of the synthesis gas components to model. Also, the carbon monoxide discrepancy may be due to fact that the pattern temperatures exceeded 550 °C, the upper limit at which the numerical model was calibrated.

In The Claims:

Please cancel claims 1-2618 and 2658-5149 without prejudice.

Listed below is a clean copy of amended claims. A marked-up copy indicating the amended sections of the claims is provided in an accompanying document.

Please amend the claims as follows:

²⁷
a42 ~~2647~~. (Amended) The method of claim ²⁶~~2646~~, wherein the partial pressure of H₂ within the mixture is measured when the mixture is at a production well.